

## ELECTRONIC COMPASS SYSTEM

### ABSTRACT OF THE DISCLOSURE

An electronic compass system includes a magnetic sensor circuit having at least two sensing elements for sensing perpendicular components of the Earth's magnetic field vector. A processing circuit is coupled to the sensor circuit to filter, process, and compute a heading. The processing circuit may determine whether too much noise is present in the output signals received from said magnetic sensor circuit as a function of the relative strength of the Earth's magnetic field vector. The magnetic sensor circuit may include three magnetic field sensing elements contained in a common integrated package having a plurality of leads extending therefrom for mounting to a circuit board. The sensing elements need not be perpendicular to each other or parallel or perpendicular with the circuit board. The electronic compass system is particularly well suited for implementation in a vehicle rearview mirror assembly.